**Elements and the Periodic Table Notes**

**Elements** are substances made entirely from one type of atom.

There are three main parts to an atom: **protons, neutrons, and electrons.**

The protons and neutrons are located in the **nucleus** of the atom.

There is usually the same number of neutrons as there are protons in the nucleus.

The electrons are located in orbital paths that revolve around the nucleus of the atom called **shells**. Each shell has a limited number of electrons that can travel in its path.

The number of electrons in an atom is equal to the number of protons in the nucleus.

The **atomic number** of an atom is determined by the number of protons in the nucleus.

The **atomic weight** of an atom is determined by the total of the protons and neutrons in the nucleus.

Atoms that have more neutrons than protons in their nucleus are call **isotopes**.

Elements are organized on a structure called the **Periodic Table of the Elements.**

The modern Periodic Table of the Elements was developed by Dimitri Mendeleev in 1869.

The table is constructed in rows, called **periods**, and columns, called **groups**.

All the elements in the same period have the same number of electron shells.

All the elements in the same group have the same number of electrons in their outer shell.

Each element is represented by a **symbol**.

Each element is also identified by its atomic number.

The element’s atomic weight is often included as well.

There are 112 elements on the Table..